IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

AMPEX CORPORATION,            )
                                           )
          Plaintiff,         )
                                           )
   v.                          )      Civil Action No. 04-1373-KAJ
                                           )
EASTMAN KODAK COMPANY, and    )
ALTEK CORPORATION,            )
                                           )
          Defendants.     )
                                           )

## MEMORANDUM OPINION

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October 31, 2006
Wilmington, Delaware

JO**RDAN, District Judge**

## I.   INTRODUCTION

This patent infringement case is before me on the motion of Defendants,

Eastman Kodak Company and Altek Corporation (collectively, "Defendants"), for

summary judgment of non-infringement.  (Docket Item ["D.I."] 302; the "Motion".)  The

background of this dispute is set forth in the claim construction opinion I issued on

October 26, 2006.  (D.I. 472.)  For the reasons set forth herein, I will grant Defendants'

Motion.

## II.   STANDARD OF REVIEW

Pursuant to Federal Rule of Civil Procedure 56(c), a party is entitled to summary

judgment if a court determines from its examination of "the pleadings, depositions,

answers to interrogatories, and admissions on file, together with the affidavits, if any,"

that there are no genuine issues of material fact and that the moving party is entitled to

judgment as a matter of law.  Fed. R. Civ. P. 56(c).  In determining whether there is a

genuine issue of material fact, a court must review the evidence and construe all

inferences in the light most favorable to the non-moving party.  *Goodman v. Mead*

*Johnson & Co.*, 534 F.2d 566, 573 (3d Cir. 1976).  However, a court should not make

credibility determinations or weigh the evidence.  *Reeves v. Sanderson Plumbing*

*Prods., Inc.*, 530 U.S. 133, 150 (2000).  To defeat a motion for summary judgment, the

non-moving party must "do more than simply show that there is some metaphysical

doubt as to the material facts."  *Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp.*,

475 U.S. 574, 586-87 (1986) (internal citation omitted).  The non-moving party "must

set forth specific facts showing that there is a genuine issue for trial."  Fed. R. Civ. P.

56(c). "Where the record taken as a whole could not lead a rational trier of fact to find for the non-moving party, there is no genuine issue for trial." *Matsushita*, 475 U.S. at 587 (internal citation omitted). Accordingly, a mere scintilla of evidence in support of the non-moving party is insufficient for a court to deny summary judgment. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 252 (1986).

## III.   DISCUSSION

### A.   Non-Infringement

Defendants have moved for summary judgment that the accused digital cameras do not infringe asserted claims 7, 8, and 10-15 of U.S. Patent No. 4,821,121 (the "'121 patent"). (D.I. 302.) A patent infringement analysis involves two steps: claim construction and then the application of the construed claim to the accused process or product. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). The first step, claim construction, has been held to be purely a matter of law. *See Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454 (Fed. Cir. 1998) (en banc). The second step, application of the claim to the accused product, is a fact-specific inquiry. *See Kustom Signals, Inc. v. Applied Concepts, Inc.*, 264 F.3d 1326, 1332 (Fed. Cir. 2001) (Patent infringement, "whether literal or under the doctrine of equivalents, is a question of fact."). Summary judgment is appropriate in patent infringement suits when it is apparent that only one conclusion regarding infringement could be reached by a reasonable jury. *See Telemac Cellular Corp. v. Topp Telecom, Inc.*, 247 F.3d 1316, 1323 (Fed. Cir. 2001). Having completed the claim construction step (D.I. 472), I now consider the parties' arguments regarding

infringement.

1.      Literal Infringement

To prevail on a motion for summary judgment of non-infringement, Defendants must prove that the accused products do not practice at least one of the claim limitations in each asserted claim.  Defendants rely on several limitations in the claims of the '121 patent to support their argument for non-infringement.  First, Defendants argue that their digital cameras do not capture or receive a "video image" that comes from, or forms a part of, a series of related electronic images created for rapid display to allow the appearance of movement.  (D.I. 304 at 22.)  Second, Defendants claim that their cameras do not store, for later access, the same "data" that was initially received and used to generate a reduced size image.  (*Id.* at 27.)  Third, according to Defendants, the accused cameras do not transfer data "directly" between the random access memory and bulk memory because there is intervening circuitry.  (*Id.* at 34.) Next, Defendants contend that, in their cameras, the random access memory does not contain "an input port and an output port" because it has a single port that performs both the input and output functions.  (*Id.* at 37.)  Finally, Defendants argue that the accused cameras obtain images from a source located completely within the housing of the camera, and not from an "external source."  (*Id.* at 38.)  Because Defendants' second argument, regarding the "data" that is stored for later access, is entirely dispositive, I consider only it.

Each asserted claim uses the term "video data," "video pixel data," "data set," or "image data set" to initially identify the data representing an image.  ('121 patent at 6:27-31, 6:49-55, 7:36-41, 7:65-68, 8:16-18, 8:48-51, 8:65-9:3, 10:8-13.)  When later

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describing the storage of that data in permanent memory, each claim, except claim 11,[1]

refers to the data using the term "said" or "the." (*Id.* at 6:32-33, 6:60-61, 7:50-51, 8:25-

27, 8:56-59, 9:8-11, 10:19-22.) For example, claim 7 recites a "random access memory

means for storing video pixel data" and a "bulk memory means for receiving *said* video

pixel data from said random access memory means." (*Id.* at 6:23-40 (emphasis

added).) As set forth in my claim construction opinion, all references to data in the form

"said/the data" mean "numerical information representing the same luminance, red

chrominance, and blue chrominance components of each pixel in a video image." (D.I.

472 at 39.) Therefore, Defendants correctly assert that the data stored in the bulk

(permanent) memory must represent the same pixel values as the data that was

originally received by the still store system and stored in the random access memory.

Ampex asserts that Defendants' argument does not apply to claim 11 because it

does not state that "said data" or "the data" is stored in the bulk memory. (D.I. 366 at

28; D.I. 477.) However, claim 11 does recite "receiving and storing ... in a random

access memory, full video pixel data comprising a full size image" and then "storing ...

*the* full size image ... in bulk storage memory." ('121 patent at 7:65-68, 8:9-10

(emphasis added).) In this claim, "*the* full size image" indicates that the same full size

image is stored in the random access memory and the bulk memory. As I stated in my

claim construction opinion, "in order for digital data to represent the *same* image, it must

represent the *same* luminance, red chrominance, and blue chrominance values for

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[1]Claim 11 does not require storage of "said/the data," but rather storage of "the full size image and the reduced size image in bulk storage memory." ('121 patent at 8:9-10.) As a result, claim 11 will be discussed separately.

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each pixel of that image." (D.I. 472 at 13-14 (original emphasis).)  This means that, in order to store the same full size image in both the random access memory and the bulk memory, the data in each memory must represent the same pixel values.  Therefore, claim 11, like the other claims asserted by Ampex, requires that the pixel values do not change before storage in permanent memory.

Defendants argue that their cameras cannot satisfy the "data" limitation because their cameras perform significant processing which changes the pixel values of an image before storage in permanent memory.  (D.I. 304 at 28-31.)  In particular, Defendants claim that pixel values are altered when the accused cameras perform CFA interpolation, white balancing, color correction, tone correction, edge correction, and JPEG compression.  (*Id.*; D.I. 409 at 8.)  Ampex does not dispute that Defendants' cameras perform these processing steps before storing the data.  (D.I. 366 at 15-16, 28-32.)  And, Ampex admits that "the numerical values stored for a given pixel in a taken picture change because of processing in the camera."  (*Id.* at 29; *see also id.* at 16 (these image processing steps ... may change the numeric value of pixels').)  Ampex's expert, Dr. Ligler, confirms that, at a minimum, the processing performed by Defendants' cameras changes the value of some of the pixels in an image.  (D.I. 306 at A-496, 258:7-17 (agreeing that CFA interpolation would change the mathematical values used to represent a pixel); *id.* at A-496, 258:18-20 (admitting that white balancing can alter pixels); *id.* at A-497-98, 259:9-260:3 (stating that color correction will alter at least some of the pixel values that represent an image); *id.* at A-498-99, 260:15-261:7 (admitting that tone correction would alter the mathematical value of pixels); *id.* at

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A-499-500, 261:16-262:9 (stating that edge correction would change the numeric value of pixels on or near an edge); *id.* at A-501, 263:7-16 (admitting that the mathematical value of pixels would be different after JPEG compression).)  Since the numeric values representing at least some of the pixels in an image are changed before storage in permanent memory, Defendants' cameras cannot literally infringe any of the claims asserted by Ampex.

   2. Doctrine of Equivalents

  Defendants argue that Ampex is not entitled to any scope of equivalents with respect to the claim limitations "said data" and "the data."  (D.I. 304 at 32.)  Specifically, Defendants point to an amendment in which "said" and "the" were added to several of the claims.  (D.I. 306 at A-113-14, A-116.)  Immediately prior to this amendment, the examiner had rejected the claims under 35 U.S.C. § 112 on numerous grounds, including that, "[i]n claim 18, line 11, 'video pixel data' is indefinite because it is not clear if it refers back to the pixel data recited in lines 5 and 6."[2]  (*Id.* at A-103.)  In response, the term "said" was inserted into that claim so that it read "memory means for receiving *said* video pixel data from said random access memory means."[3]  (*Id.* at A-113 (emphasis added).)  The applicant explained that the claims were amended to provide antecedents for the terms that the examiner identified as being indefinite.  (*Id.* at A-

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  [2]The claim referred to as claim 18 during prosecution ultimately issued as claim 7 of the '121 patent.  (D.I. 306 at A-135, A-152.)

  [3]In the same amendment, claim 19 was amended to recite "bulk storage memory for also storing *the* video pixel data" (D.I. 306 at A-114), and claim 23 was amended to read "a second store for receiving and storing both *the* video data from the first store" (*id.* at A-116).

123.)  Specifically, the applicant stated that now the "video pixel data" in line 11 properly

refers back to "video pixel data" in lines 5 and 6.  (*Id.*)  Defendants contend that this

amendment raises the presumption of prosecution history estoppel.  (D.I. 304 at 32.)

"The first question in a prosecution history estoppel inquiry is whether an

amendment ... has narrowed the literal scope of a claim."  *Festo Corp. v. Shoketsu*

*Kinzoku Kogyo Kabushiki Co.*, 344 F.3d 1359, 1366 (Fed. Cir. 2003) (citing *Pioneer*

*Magnetics, Inc. v. Micro Linear Corp.*, 330 F.3d 1352, 1356 (Fed. Cir. 2003)).  In this

case, the term "video pixel data," by itself, means numerical information representing

the pixel values of an image.  By adding the term "said" to "video pixel data," the

amendment narrowed the scope of this term.  The applicant specifically stated that the

purpose of the amendment was to limit the term "video pixel data" to the data that was

identified earlier in the same claim.  Since the amendment at issue was narrowing, the

next question is "whether the reason for that amendment was a substantial one relating

to patentability."  *Id.*  The U.S. Supreme Court expressly recognized that "a narrowing

amendment made to comply with any provision of the Patent Act, including § 112, may

invoke an estoppel."  *Id.* (citing *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*,

535 U.S. 722, 736 (2002) ("*Festo VIII*")).  Since the applicant here made a narrowing

amendment to overcome a rejection under section 112, there is a "presumption that the

patentee has surrendered all territory between the original claim limitation and the

amended claim limitation."  *Id.* at 1367 (citing *Festo VIII*, 535 U.S. at 740).

Ampex may rebut that presumption if it can demonstrate "that the alleged

equivalent would have been unforeseeable at the time of the narrowing amendment,

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that the rationale underlying the narrowing amendment bore no more than a tangential

relation to the equivalent in question, or that there was 'some other reason' suggesting

that the patentee could not reasonably have been expected to have described the

alleged equivalent." *Id.* at 1368 (citing *Festo VIII*, 535 U.S. at 740-41).  Ampex argues

that the alleged equivalent in this case would have been unforeseeable at the time of

the narrowing amendment.  (D.I. 366 at 33.)  In particular, Ampex claims that, although

the image processing performed by Defendants' cameras was well known at the time

the '121 patent was filed, it was unforeseeable that progress of component

miniaturization would allow the video input circuit (i.e., the CCD image sensor) to be

integrated into the same chassis as the circuitry used for image storage.  (*Id.* at 30.)  It

was this advance in technology, says Ampex, that permitted image processing to occur

between the random access memory and the bulk memory.  (*Id.*)  While Defendants

contest the accuracy of that argument (D.I. 409 at 13), Ampex has not shown that the

alleged equivalent was unforeseeable at the time of the amendment, even if its

argument were accepted as true.

Ampex's position is that, while the image processing performed by Defendants'

cameras may change some pixel values prior to storage, the data that is ultimately

stored in Defendants' cameras will represent an image that is equivalent to the image

first captured and stored.  (D.I. 366 at 30-31.)  That position has intuitive appeal, but it

ignores the import of *Festo* and following cases.  Ampex's argument regarding the

miniaturization of components, if true,[4] only proves that it was unforeseeable that the particular image processing techniques used by Defendants' cameras could be performed between the random access memory and the bulk memory. It certainly does not prove that it was unforeseeable at the time Ampex amended its application that the pixel values of an image could be altered, in some fashion, prior to storage in the permanent memory of a digital device, and still represent a substantially similar image. Therefore, it is reasonable to expect the patentee to have described a still store system in which the pixel values of an image may change before storage. But, instead, the claims of the '121 patent were specifically amended to indicate that the claimed system did not alter the pixel values of an image. (D.I. 306 at A-123.)

Ampex also contends that the rationale underlying the amendment bears no more than a tangential relation to the equivalent in question. (D.I. 366 at 33.) In assessing this argument, the question is essentially "whether the reason for the amendment is peripheral, or not directly relevant, to the alleged equivalent." *Festo*, 344 F.3d at 1369 (citing *The American Heritage College Dictionary* 1385 (3d ed. 1997); 2 *The New Shorter Oxford English Dictionary* 3215-16 (1993)). In this case, it would be difficult to imagine an amendment that is more directly related to the equivalent at issue. As discussed above, the prosecution history shows that the term "said" was added for the purpose of indicating an antecedent relationship between the pixel data first stored and the data subsequently referenced, or, more specifically, to demonstrate

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[4]I too harbor doubts that it was unforeseeable that advances in miniaturization technology would permit the design of devices like the Defendants', but I need not reach that issue.

that the data stored in the bulk memory of the still store system is the same as that stored in the random access memory.  (D.I. 306 at A-123.)  Given that the amendment specifies exactly what data will be stored by the claimed invention, it is directly relevant to the alleged equivalent.

Since Ampex has failed to rebut the *Festo* presumption, prosecution history estoppel prevents the doctrine of equivalents from being applied to the "said data" element in the amended claims. *See Festo*, 344 F.3d at 1367.  Furthermore, any "subject matter surrendered via claim amendments during prosecution is also relinquished for other claims containing the same limitation." *Glaxo Wellcome, Inc. v. Impax Labs., Inc.*, 356 F.3d 1348, 1356 (Fed. Cir. 2004) (citing *Builders Concrete, Inc. v. Bremerton Concrete Prods. Co.*, 757 F.2d 255, 260 (Fed. Cir. 1985)).  In other words, prosecution history estoppel applies to the "said/the data" limitation in every claim asserted by Ampex regardless of whether it was ever amended.  *See id.*  As a result, Defendants' cameras cannot infringe any of the claims asserted by Ampex under the doctrine of equivalents.[5]  Thus, there is no infringement, literally or by equivalents, of the "data" element that appears in every claim at issue in this case, and accordingly, I will grant Defendants' motion for summary judgment of non-infringement.

## IV.   CONCLUSION

Accordingly, I will grant Defendants' Motion for Summary Judgment of Non-Infringement.  An appropriate order will follow.

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[5]Since the language "the full size image" imposes the same limitation as "said/the data" (*see supra* at 4), prosecution history estoppel also applies to that element of claim 11.

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